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## The Effect of Soft Tissue Interventions on Post Swimming Recovery

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***Background:*** Swimming is an intense sport, with many physical and mental demands, that requires effective recovery processes/tools to prevent injury and decreases in performance. There are many types of recovery tools but typically they utilize self-myofascial release (MFR) to restore normal muscular function (Weerapong et al, 2005). Foam Rollers (FR) and Percussion Therapy (PT), are types of self-MFR tools that are widely accessible and prevalent in society, yet there is no current research into a comparison of the two and their effects on ROM.

***Objectives:*** To investigate the effects of FR and PT on recovery after a bout of swimming on university students, specifically looking into the hamstring muscles length, measured by the 90/90 test (active knee extension).

***Methods:*** 10 participants were randomized into group 1 (PT on left leg (LL), FR on right leg (RL)) and group 2 (PT on RL, FR on LL). Pre-intervention 90/90 test was measured on both legs three times. Then intervention of FR and PT was applied on the corresponding leg, dependent on grouping. Post-intervention 90/90 test was measured three times on both legs. A series of paired-samples t-tests were used to identify significant differences.

***Results:*** Significant difference was found in the mean change of range of motion (ROM) between pre and post-test for both interventions. For baseline to post PT intervention ($P < .001$) and for baseline to post FR ($P = .011$). Furthermore, PT produced a greater ROM than FR ($P = .019$).

***Conclusion:*** A significant improvement in both the PT and FR intervention groups was observed between pre-intervention and post-intervention measurements. A between group analysis also suggested that PT created a statistically significant greater increase in ROM when compared to FR, suggesting that PT may represent a more efficient recovery tool post-swimming compared to FR alone. Further research would be suggested within this field to determine application parameters and potential benefits of the interventions.

## An Exploration of Athletic Therapists' Perceptions and Experiences of the Biopsychosocial Approach to Injury Rehabilitation

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***Introduction:*** Including the biopsychosocial (BPS) model in patient care is vital for optimal patient outcomes. Traditionally, in healthcare professional education and practice, a biomedical approach to patient care has been evident (Kaye et al, 2021). However, in the past 10 years, the BPS model has become more dominant in the literature for its holistic approach to patient care. (Daluiso-King and Hebron 2020). Despite this, clinicians priorities a biomedical approach and the reason for this is blamed on inadequate education (MacDougall et al, 2019). The central aim of this study is to gain an insight into the perceptions and experiences of ATs on the BPS approach to injury rehabilitation, with a secondary aim of exploring their opinions on education in the area.

***Methods:*** A cross sectional inductive approach was taken through convenience sampling of ATs across Ireland, Canada and Great Britain. Perceptions and experiences of 36 ATs on the BPS approach were collected and identified through an open-ended questionnaire, consisting of 25 questions broken into sections considering participants General Demographics; Understanding and Perceptions of Rehabilitation; Experiences; Training, past and future. Responses were analyzed using Microsoft Forms and Excel, and accordingly analyzed using a thematic analysis outlined by Braun and Clarke (2006).

***Results:*** Themes that emerged from the data were 1) Relevance of the BPS approach, 2) Training, and 3) Barriers, derived from the Subthemes of Importance, Patient Led Goals, Lack of Education, Need for Training, Lack of Confidence in Application, Patient Unwillingness and No Specific Framework.

***Discussion:*** ATs recognize that psychosocial care is beneficial and within their scope but don't feel confident in employing strategies, however, confidence grew with years of experience. A lack of applied education was blamed for the inability to implement psychosocial strategies similar to previous findings (Kaye et al, 2021) and majority called for further training with participants providing suggestions for areas needing improvement. Specific guidelines for treating patients with psychosocial tendencies were called for to improve patient care and allow for better understanding of the biopsychosocial approach.

***Conclusions:*** The findings of this study suggest ATs acknowledge they aren't providing adequate patient care but feel unable to adopt a new approach. Suggestions were made for further training which should be considered when planning future education. Further research should delve into training needs in order to ensure education provides necessary information to upskill ATs.

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## Active Learning Strategies Used to Aid Metacognitive Development in Athletic Therapy/Training

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***Context:*** Clinical reasoning is at the heart of all clinicians' professional competent practice, which requires a number of cognitive processes and strategies of which metacognition plays an essential role (Higgs et al, 2018; Koufidis et al, 2020; Norman, 2005). Metacognition in its simplest terms is "thinking about thinking" (Welch et al, 2018). Metacognition is a conscious high-level thinking activity that allows us to reflect, evaluate, and promote self-regulatory and intentional control of our learning (Rivas et al, 2022). Active learning strategies fosters learner's engagement in and responsibility for their learning, (Harris and Bacon, 2019), thus developing metacognition, where learners seek out what information they know and establish where the deficits in their knowledges lies and to remediate this, resulting in improved clinical reasoning skills (Gruppen, 2017). Active learning strategies have proven successful in the healthcare profession classroom over the past decade and been shown to support metacognition, through the ability of students to link new learning from previous knowledge (Gooding et al, 2017; Préfontaine et al, 2021).

***Objective:*** To explore the role of active learning strategies to aid metacognition in enhancing clinical reasoning in Athletic Therapy/Training classroom.

***Educational Impact:*** Clinical reasoning is improved through educational interventions, such as active learning strategies. These teaching approaches increase metacognition, motivation and improved critical thinking, thus clinical reasoning (Barrett et al, 2018; Harris and Bacon, 2019; Joshi et al, 2022; Kosior et al, 2019; Martirosov and Moser, 2021; McMillan, 2010; Teunissen et al, 2021). Metacognition is at the heart of teaching and learning, where it allows for the deliberate scaffolding of pedagogical teaching practice, such as active learning strategies, allowing learners to engage in their knowledge (Kosior et al, 2019; Tanner, 2012). These include methods such as SNAPPS (summarize, narrow, analyze, probe, plan and select), debriefing and simulation patients, case-based learning, concept mapping, thinking out loud, role modelling, team-based learning and problem-based learning. Active learning methods such as SNAPPS and Student Generated Reasoning Tool asks learners to propose and justify clinical hypotheses and findings and to critically appraisal the information related to the clinical problem. Debriefing after simulations and clinical patients' experiences are practical ways for educators to enhance feedback and allow learner's time to reflect and learn, developing critical appraisal (Edler et al., 2019).

***Recommendation:*** Active learning strategies encourage learners to engage, think, consider their thought processes more systematically, justify and critically appraisal their clinical reasoning. This justification and appraisal of clinical reasoning, allows learners to be made aware of their knowledge, promoting clinical competence, and facilitating lifelong learning to occur (Zagury-Orly et al, 2022). The use of active learning strategies should be explicitly integrated into Athletic Therapy Training pedagogical curriculum to aid the development of metacognition in the development of clinical reasoning.

## Attitudes to Sport Psychology Services in Irish Gaelic Games Players

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***Context:*** Gaelic games are described as Ireland's national (O'Connor et al, 2016) and most popular sports (Reilly and Collins, 2008). Despite classification as amateur sports, players face quasi-professional training regimes (Beasley, 2015) and can be exposed to over 600 distinct stressors (Gouttebarge et al, 2016), including injury, pressure to perform or public and media scrutiny. Sport psychology has demonstrated benefits for competitive performance (Barker et al, 2013), injury prevention (Johnson et al, 2005) and injury rehabilitation (Podlog et al, 2014; Maddison and Prapavessis, 2005). Previous research has demonstrated varying attitudes and receptivity of elite Irish athletes to sport psychology consulting (Woods et al, 2015). However, a comprehensive understanding of the attitudes of Gaelic games players is lacking. Therefore, this study aims to examine the attitudes to sport psychology services in Irish Gaelic games players.

***Methods:*** Gaelic games players (n = 274; 22.2–5.5 years) completed the Sport Psychology Services questionnaire (Wrisberg et al, 2009), which examined players' willingness to seek sport psychology services and their perception of the benefits of sports psychology to themselves or their team.

***Results:*** Players reported a high willingness to utilize sport psychology services for dealing with injury/rehabilitation, enhancing performance and performing as well in competition as in practice, while also reporting these factors as highly beneficial to the player or team. Willingness to utilize sport psychology services to deal with pressure or personal issues and manage anxiety was low.

***Conclusion:*** Gaelic games players report positive attitudes to sport psychology, appraising the perceived benefits and demonstrating a willingness to utilize services. Access to sport psychology consulting must be prioritized within Gaelic games.

## Differences in Motivation Factors and Self Perception Among Women in Mixed Gender Running Groups Versus Women Only Groups

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In recent years, running has gained popularity as a physical activity among individuals of various genders and age groups. Both professional and amateur runners dedicate significant time to training and improving their running abilities. Motivation plays a crucial role in determining an individual's decision to engage in physical activity and to persist in it. Running has a great influence on the runner's self-perception. This study aimed to investigate the differences in motivation factors and self-perception among women participating in mixed gender running groups compared to women-only groups.

***Methods:*** This study included 40 female runners, with 20 participants in the mixed gender group (average age: 46.4 ± 9.16 years) and 20 participants in the women-only group (average age: 45 ± 10.37 years). The participants were active runners who had consistently engaged in running for a minimum of three consecutive months without significant breaks (longer than a week). The study utilized three questionnaires: the SMS-6, which assessed motivation factors among runners; the RSES (Rosenberg's self-esteem scale) to measure self-esteem; and the BES (Body Esteem Scale) to evaluate body esteem.

***Results:*** The findings revealed that integrated regulation emerged as a more significant motivation factor among the mixed gender group (M = 5.76 + 1.18) compared to the women-only group (M = 4.8 + 1.37). Furthermore, significant differences were observed in the number of running workouts per week ($P = .016$, $\chi^2(2) = 8.3$). Participants in mixed gender groups ran more frequently per week (once to twice a week = 1, three to four times a week = 17, five or more = 2) than participants in women-only

groups (once to twice a week = 8, three to four times a week = 12, five or more = 0). Additionally, significant differences were found in weekly running volume ($P = .017$, $t = 2.5$) and daily running volume ($P = .009$, $t = 2.76$) between the two groups. Women in mixed gender groups ran more kilometers per week (M = 40.95 ± 17.39) and per training session (M = 11.55 ± 3.3) compared to women in women-only groups (weekly kilometers: M = 29.1 ± 12.2; training session kilometers: M = 9.05 ± 2.35).

***Conclusion:*** Overall, the study suggests that running in a mixed gender group may positively influence self-perception, while motivation factors in such groups may be influenced by the presence of men and the notion of self-identity. The observed differences in running habits between the groups may be attributed to the competitive atmosphere often found in mixed gender running groups. Notably, a connection was found between the running habits of women in mixed gender groups and their primary motivation factor of self-identity. These findings indicate that higher weekly training volumes and more frequent training sessions contribute to running becoming an integral part of the runners' lives and even a component of their self-identity.

## Difference in Sports Efficacy and Sports Readiness Within Competitive Wheelchair Basketball Players

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Adapted sports offer an opportunity to promote community engagement, improve physiological functioning, and enhance psychological outlook. Previous research has revealed the connection and role of positive emotions on sport performance. However, there is very little knowledge on how positive emotions (ie, self-efficacy and self-confidence) affect and motivate athletes' involvement, participation, and perceived success in adapted sports. Adapted sport athletes are likely to experience a range of sport-specific and disability-specific stressors that have the potential to decrease positive emotions and compromise their personal well-being and their performance. This study addresses part of this gap by exploring different parameters that can improve the personal well-being of these athletes and increase participation in adapted sports like wheelchair basketball.

The purpose of this study is to identify differences in sports efficacy and sports confidence within competitive wheelchair basketball athletes. We compared between functional classifications as defined by the International Wheelchair Basketball Federation (IWBF), gender, etiology of injury, and years of experience. In addition, we aimed to explore the relationship between family support and psycho-social well-being.

To categorize the athlete's level of sports confidence, efficacy and goal orientation, we used the Basketball Self-Efficacy Scale (BSES), Task and Ego Orientation in Sport Questionnaire (TEOSQ), and Trait Sport Confidence Inventory (TSCI). Forty-eight athletes were recruited from different clubs and levels of participation in Israel. We used Microsoft Excel for Mac Version 16.60 (2019) to analyze the data from the BSES, TEOSQ, and TSCI to compare the different groups. T-tests were used to compare between group means. Pearson correlation analyses were used to explore relationships between variables.

There were significant differences between IWBF classifications, in the athletes' goal orientations (TEOSQ). The hardly impaired athletes (IWBF 4-4.5) scored higher than the heavily impaired athletes (IWBF 1-1.5) ($P = .04$). More specifically, when analyzing sub-divisions of the TEOSQ, it was found that the hardly impaired athletes were more ego orientated than the heavily impaired athletes ($P = .02$). Furthermore, inexperienced athletes have a higher task-orientation to reach their goals, when compared to experienced athletes ($P = .03$).

When comparing between male and female athletes, we found that males had higher self-efficacy scores (BSES) than females ($P = .01$), indicating that males have higher perceived competence and perceptions of ability. Pearson correlation analyses revealed a moderate positive correlation between family support and sports confidence (TSCI; $r = 0.42$, $P = .006$). In addition, we found a strong negative correlation ($r = -0.60$, $P = .001$) between the age of the athletes and their goal orientation (TEOSQ), indicating that younger athletes have higher ego orientations and older athletes have higher task orientations.

Findings from this study imply that controllable factors such as family support and experience and uncontrollable factors including age, IWBF classifications, and gender can affect wheelchair basketball athletes' well-being in conjunction with their sports confidence, task and ego orientation, and basketball performance. Coaches, team managers, and therapists should be aware of this information and create an environment which takes notice of the role of family support in enhancing sports confidence. Also, in order to achieve cohesiveness between task and ego-oriented athletes on teams, these findings should be taken into consideration due to the diversity of disabilities/classifications, age, and gender of the athletes that compose wheelchair basketball teams.

***Key Words:*** Wheelchair basketball, self-efficacy, sports confidence, goal orientation, sports readiness, family support, classifications